

October 12, 2004

MEMORANDUM FOR: AIS Observers

FROM: David Potter
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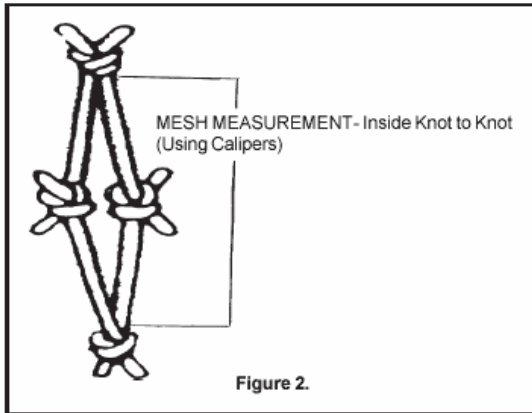
SUBJECT: Maintaining accuracy and detailed
notes on trawl gear characteristics

This memo addresses important information that observers must read before doing their next trawl trip. The purpose of this memo is to review the methods used to collect and record data on critical gear characteristics. These characteristics are often linked to regulations and industry members have expressed their concerns that they are collected properly.

The Observer Program needs to ensure that observers are collecting codend mesh size measurements correctly. The program needs to maintain high data quality and continue its commitment to the collection of accurate scientific data by taking these measurements in a standardized manner. **Please read the following to make sure you are taking the codend mesh size measurements correctly and noting any use of fish outlets and separator panels.**

When to Take Codend Measurements

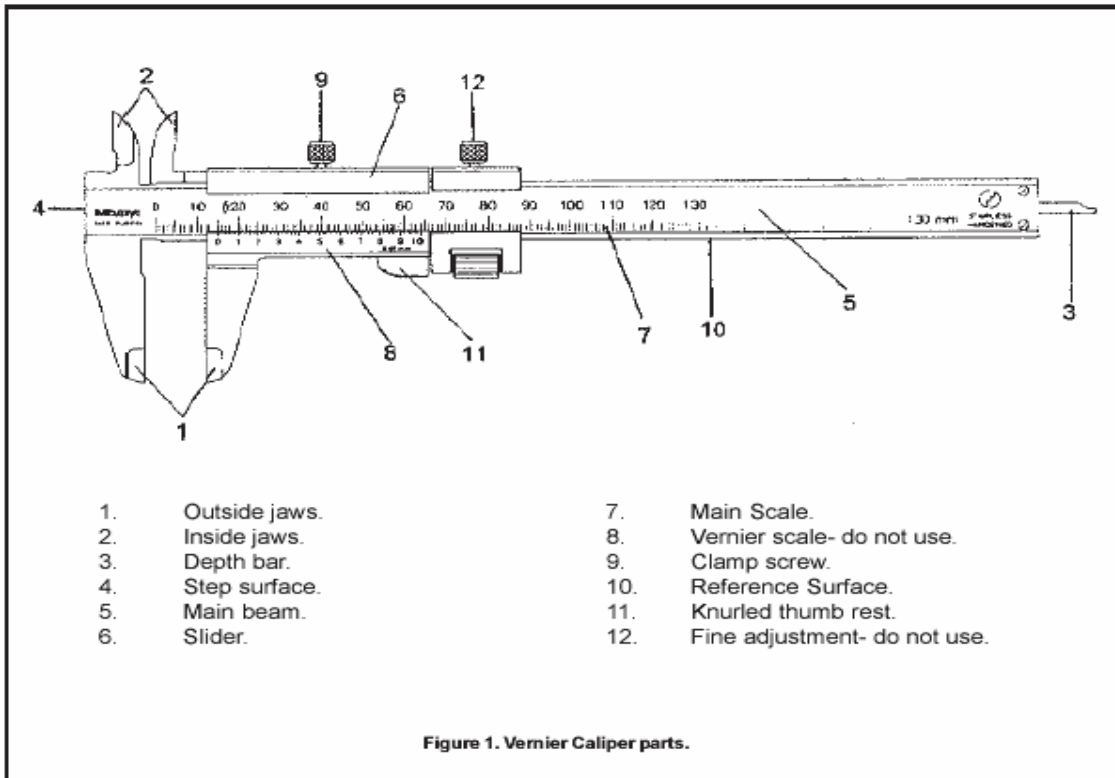
Ten (10) mesh size measurements of the codend should be taken:



- while the net is wet
- after the net has been used for at least one haul
- when the codend is empty
- when the codend is not frozen
- with the codend lowered off the net reel and onto the deck
- randomly from the entire codend excluding areas that have been repaired
- inside knot to knot
- in the direction in which the mesh is hung

Taking the mesh size measurements under these conditions gives a better representation of how the gear is actually fishing in the water. It is understandable that the time allowed for taking these measurements and access to the codend is often limited. Therefore, these measurements should be taken as the opportunity presents itself (ex. after a haul in which biological sampling is not occurring or immediately after the last haul).

How to Take Codend Measurements



1. The calipers are used by grasping the main beam (5) between the palm and fingers, while pushing or pulling the slide with the thumb on the knurled thumb rest (11).
2. Place the inside jaws (2) as deep as possible inside the mesh, making as perfect a contact as possible.
3. The thumb should exert approximately 5 pounds of force in either direction of the knots while the measurement is read. Do not apply excessive measurement force, as this will distort the measurements.
4. The slider may be clamped with the clamp screw (9) for easier reading of the scale.
5. Measure in a straight line. Do not allow the calipers to measure at an angle.
6. Measurements are read at the zero mark of the slider (5).
7. Use the top of the main scale (7) to obtain measurements to the nearest millimeter.
8. Do not use the fine adjustment or the vernier scale.

Please refer to the Observer Program Manual A. 46 for instructions on caliper maintenance.

Liners

A liner is a section of small mesh net sewn into the inside of the codend bag. The purpose of which is to restrict the escapement of smaller species. Examples of when to expect liners to be used include vessels targeting squid, herring, mackerel, shrimp, etc.

A single liner mesh size measurement and 10 random codend mesh size measurements should be collected using the same protocol as described above. Be sure not to confuse the liner with the codend or a strengthening bag.

An example of a codend with liner:



Strengtheners - Displayed in RED

Codend mesh - Displayed in GREEN

Liner - Displayed in WHITE

Fish Separator Panels, Fish Outlets, and Flounder Trawl Configurations

As part of the new regulations implementing Amendment 13, all NE multispecies trawl vessels fishing in the Eastern U.S./Canada Area are required to fish with a flatfish net or a haddock separator trawl. In this fishing area, please record which net is being used in the COMMENTS section on the Gear Characteristics Log.

A haddock separator trawl is defined as a groundfish trawl modified to a vertically oriented trouser trawl configuration, with two extensions arranged one over the other, where a codend shall be attached only to the upper extension, and the bottom extension shall be left open and have no codend attached. A horizontal large mesh separating panel constructed with a minimum of 6.0 inch diamond mesh must be installed between the selvages joining the upper and lower panels. If this net is used, the observer must complete the fish outlet and the separator sections of the Gear Characteristics Log.

A flounder (or flatfish) net is defined as a bottom trawl gear constructed with 6-inch diamond or 6.5-inch square mesh, with the exception that the mesh size in the square of the top panel of the net, identified as the area located from the headrope to the beginning of the first belly, shall not be smaller than 12.0-inch mesh. This portion of the net should be recorded in the fish outlet section of the Gear Characteristics Log.

Why Take Mesh Size Measurements

As you may well know, taking these measurements is often a sensitive issue with the captain of the boat. Therefore you should be able to explain to the captain why these measurements are collected and why the Observer Program's protocols require them to be collected in the manner described above.

These measurements are important for three reasons:

1. By documenting variables such as mesh size in relation to catch attributes (e.g., quantity, species composition, size distribution of catch) it is possible to conduct statistical analyses of the factors that result in high (or low) rates of discard, species mix, changes in catch rate, etc.

2. Gear performance observations, when collected over time, can be used to better calibrate catch-per-unit-effort abundance measures. For example, if the average size of nets, duration of tow, ground-cable length, etc., change over time, these may have a direct effect on catch per day fished by the fleet (even for same sized vessels). Given sufficient information, these factors can be included in stock assessment analyses to provide a more complete and accurate picture of fishing intensity and effectiveness.
3. Some analysts request observer coverage according to mesh size ranges, which are grouped into categories on the observer sea day schedule. The Observer Program uses the mesh sizes obtained by the observer to make sure these requested sea days are being met. Here, the mesh sizes from individual vessels are not used in analyses; instead an average mesh size within a range is used. The data are grouped to estimate catches from gear in certain mesh size categories.

As a final note, the average of the ten measurements is the only figure entered into the database system (the ten initial measurements are averaged at the data entry stage

and that average is loaded into the master tables of the database). Observer data are not used to check for individual mesh size to seek potential violations.

The Observer Program is a science based program and using calipers is the most accepted scientific method for taking fine measurements. The Coast Guard (when taking mesh size measurements for regulatory purposes) uses a different method, measurement tool, and measurement units. Observers purposely do not use enforcement protocols as they have been designed for just that - enforcement. In addition, the tool used by enforcement is not compact and as easy to use at sea by one person.

For additional information about this memo, please contact your editors or Amy Van Atten at 508-495-2266.

Thank you.